ON MOUNTING MINUTE INSECTS, PARTICULARLY MICRO-DIPTERA.

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There has been, in the past, a great lack of uniformity in the mounting of minute insects. I believe the subject one demanding the earnest attention of collectors. Probably nothing adds more to the appearance of a collection than a uniform style of mounting, and also, nothing is more difficult to maintain (under the present order of things) in the building up of a large collection by accessions from other collections. Further, the usefulness of what is intended for a working collection depends almost entirely on the manner of mounting. In a lot of minute insects recently received from Europe, over a dozen different styles of mounting (all on pins) were represented, and not one was adapted to a rapid and satisfactory examination of the insect. For certain very essential characters remounting was necessary.

In Coleoptera, Hemiptera, and Hymenoptera, during the past few years, the mounting has become much more uniform in this country, the triangular slip of cardboard being used almost exclusively. Unfortunately there has been the greatest variation in size of slip, and manner of placing specimen on same. The most satisfactory size and shape seems to be that recommended by Riley, and I believe this should be adopted by all American collectors. With a little practice these can be very rapidly cut by hand from strips of cardboard of the standard width. In hand cut slips there will be a very convenient variation in size of point. With the slips should be used *at least* a No. 2 pin — preferably Klaeger. There is nothing gained by the use of very slender, easily bent pins, and they are extremely exhausting to the patience. So trying to me are these very slender pins that I never use them except with Micro-lepidoptera, to stick into pith mounted on a heavier pin.

Holding the pin in the hand, slip pointing to the left, the mounted insect should always have the head directed away from the operator, and be evenly saddled on the extreme point of the slip, at right angles to both slip and pin. Specimens are usually better mounted with the back straight up, the slip point glued to one side of the ventral surface. This will allow a ready examination of any portion of the body with a $\frac{1}{2}$ or $\frac{2}{3}$ objective, provided the standard length of slip is used. If a good glue (like fish-glue) of the right consistency is used there will be no trouble with specimens falling off. A moderately thin solution of white shellac in alcohol has best served my purposes. It should be remembered that the most important characters in

Coleoptera are ventral, in Hymenoptera dorsal, and in Hemiptera both dorsal and ventral.

Not only has this method been found to answer every purpose (both as to utility, and beauty also — if neatly done) in connection with the preservation and study of material in Coleoptera, Hemiptera, and Hymenoptera, but it is a far more rapid method for the minute things than any other, and American workers have no time to waste. I would like to ask why this method cannot be used for Micro-diptera? I can see nothing to be gained by adhering to the old methods of pinning, that in which the cork and pith blocks are used requiring the expenditure of too great an amount of time. Up to a very recent date most dipterists have insisted that it was absolutely necessary to pin all Diptera, yet in no case at hand can I find a good reason given. On the contrary one of our best dipterists lately informed me that in future he wished the micros all mounted on slips.

I use the moderately thin shellac glue and have had no trouble with specimens falling off. On the other hand, specimens on the little pins in pith often come loose and swing about, standing at all angles and ruining the appearance of the collection. Not only is there a great saving of time in mounting on slips, but there is far less injury to the specimen than in pinning, and it is much more readily manipulated under the microscope. I have used this method in my own collection for some time and think myself justified in recommending it to American collectors, though it would undoubtedly horrify our patient and long-suffering European brethren. Many of us would be very glad to hear from the dipterists regarding this matter. However, before any definite opinion is rendered, specimens correctly mounted by this method should be carefully examined. I will gladly loan such specimens from my own collection to any one willing to pay postage on same.

NOTES ON NEW ENGLAND ACRIDIDAE.—III. OEDIPODINAE.—IV.

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12. CHORTOPHAGA Sauss.

Chortophaga Saussure 1884. Prodromus Oedipodiorum, 43, 72.

18. **Chortophaga viridifasciata** DeG. Figs. 18, 18a.

Acrydium viridifasciatum. DeGeer, Memoires d. Ins., iii, 498, pl. 42, fig. 6 (1773).

Locusta (*Tragocephala*) *viridifasciata.* Harris, 181.

Locusta (*Tragocephala*) *infuscata.* Harris, 182.

Locusta (*Tragocephala*) *radiata.* Harris, 183.

Tragocephala infuscata. Scudder, 461; Thomas, 102.

Tragocephala viridifasciata. Scud-